Universität Basel

Research Project

Data Archiving in the Cloud

Project funded by own resources

Project title Data Archiving in the Cloud
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Organisation / Research unit
Departement Mathematik und Informatik / Databases and Information Systems (Schuldt)
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With the advent of data Clouds that come with nearly unlimited storage capacity combined with low storage costs, the well-established update-in-place paradigm for data management is more and more replaced by a multi-version approach. Especially in a Cloud environment with several geographically distributed data centers that act as replica sites, this allows to keep old versions of data and thus to provide a rich set of read operations with different semantics (e.g., read most recent version, read version not older than, read data as of, etc.). A combination of multi-version data management, replication, and partitioning allows to redundantly store several or even all versions of data items without significantly impacting each single site. However, in order to avoid that single sites in such partially replicated data Clouds are overloaded when processing archive queries that access old versions, query optimization has to jointly consider version selection and load balancing (site selection). In our work, we address novel cost-aware index approaches (called ARCTIC) for version and site selection for a broad range of query types including both fresh data and archive data.

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[**Add publication**]

Published results

2301770, Fetai, Ilir; Brinkmann, Filip-Martin; Schuldt, Heiko, PolarDBMS: Towards a Cost-Effective and Policy-Based Data Management in the Cloud, Publication: ConferencePaper (Artikel, die in Tagungsbänden erschienen sind)

3177812, Brinkmann, Filip-Martin; Schuldt, Heiko, Towards Archiving-as-a-Service: A Distributed Index for the Cost-effective Access to Replicated Multi-Version Data, 978-1-4503-3414-3, Publication: ConferencePaper (Artikel, die in Tagungsbänden erschienen sind)

3695540, Brinkmann, Filip-Martin; Fetai, Ilir; Schuldt, Heiko, SLA-basierte Konfiguration eines modularen Datenbanksystems für die Cloud, 978-3-658-11588-3, Big Data: Grundlagen, Systeme und Nutzungspotenziale, Publication: Book Item (Buchkap., Lexikonartikel, jur. Kommentierung, Beiträge in Sammelbänden etc.)

Add documents

Specify cooperation partners